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IMMUNE RESPONSE
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UPDATE ON MUMPS OUTBREAK IN MIDWEST UNITED STATES

High MMR vaccination rates with 2 doses of vaccine may be keeping the mumps outbreak from spreading into Montana. The case count for the mumps outbreak, which started in Iowa and has spread to at least 12 other states, climbed to over 4000 cases by the end of May 2006. Slightly less than half of those cases were reported from Iowa, and approximately 2000 from Kansas, Illinois, Nebraska, Missouri, South Dakota, Pennsylvania and Wisconsin. Four other states, Colorado, Minnesota, Mississippi and New York have reported 48 cases, some of which were traced to travel into or out of the affected states.

During the outbreak several people with mumps disease traveled via commercial airlines during their infectious period, which involved 40 different flights, and 11 airlines between March 26 and May 10, 2006. Passengers and crew on the identified flights are being notified and interviewed for vaccine history.

Factors that seem to have contributed to the mumps outbreak are:

- Frequent and extended close contact with other students on college campuses,
- Less than half of the states require proof of 2 doses of MMR vaccine prior to college admission,
- Delay in recognition of the mumps disease by physicians unfamiliar with mumps,
- Two doses of MMR vaccine are not totally effective in preventing mumps disease, added to the number of persons not successfully immunized may have been a sufficient number to sustain transmission,
- Persons with asymptomatic infection or mild disease may have continued the disease transmission, and

On May 17, 2006, the Advisory Committee on Immunization Practices (ACIP) recommended changes to the 1998 ACIP recommendations on mumps. Some of the changes are:

Documentation of adequate vaccination is 2 doses of a live mumps virus vaccine for

- School-aged children,
- Adults at high risk who work in health-care facilities,
- Students in post-secondary educational institutions, and
- International travelers.

Routine vaccination for health-care workers

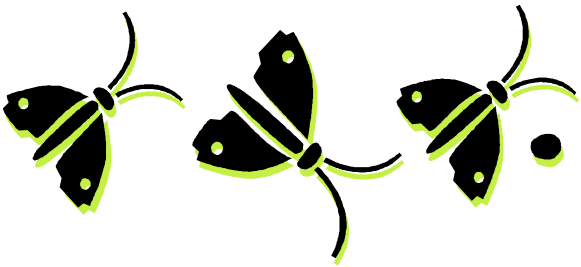
- Persons born during or after 1957 without other evidence of immunity should receive 2 doses of a live virus mumps vaccine,
- Health care facilities should consider recommending 1 dose of MMR vaccine to unvaccinated health-care workers born before 1957 who do not have other evidence of mumps immunity.

In outbreak settings

- Consider a second dose of live mumps vaccine for children aged 1-4 years and adults at low risk (minimum interval between doses = 28 days).
- Exclusion of persons without evidence of immunity to mumps from institutions such as schools and colleges affected by the outbreak.
- Once vaccinated, students and staff can be readmitted to school. The period of exclusion for those who remain unvaccinated is 26 days after the onset of parotitis in the last person in the affected institution.
- Students who acquire mumps illness should be excluded from school until 9 days after the onset of parotitis.
- Strongly consider recommendation of two doses of live mumps vaccine for health-care workers born before 1957 without other evidence of immunity.

- After a mumps exposure, unvaccinated health-care workers without evidence of immunity should be vaccinated and excluded from duty from the 12th day after exposure through the 26th day after the last exposure.
- Health care workers with mumps illness should be excluded from work until 9 days after the onset of parotitis.

CDC continues to conduct mumps surveillance, evaluate vaccine effectiveness, and assist with control activities. More information will be shared. To view the revised ACIP recommendations on line, please go to: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm55e601a1.htm.



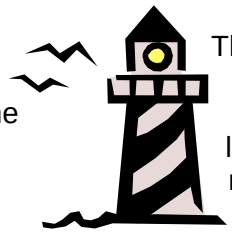
Defer Menactra® in 11-12 year olds

Due to a limited supply of Menactra® (MCV4), CDC in consultation with ACIP, the American Academy of Pediatrics, American Academy of Family physicians, American College Health Association, and Society for Adolescent Medicine, recommends that providers defer immunizing persons aged 11-12years. It is recommended that providers should continue to vaccinate adolescents at high school entry who have not previously received MCV4 and college freshmen living in dormitories. Sanofi Pasteur anticipates that MCV4 demand will outpace supply at least through 2006.

Current supply projections from Sanofi Pasteur suggest that there will be enough MCV4 to meet the demand for these age groups. Other persons at high risk for meningococcal disease (travelers to areas where meningococcal disease is epidemic, healthcare workers who are routinely exposed to isolates of N. *meningitides*, HIV, persons with anatomic or functional asplenia) also should be vaccinated.

Periodic updates of vaccine supply will be available at http://www.cdc.gov/nip/news/shortage/default.htm

Lighthouse Award



The Montana Immunization Program and the Flathead County Health Department are proud to recognize outstanding leadership efforts. We are pleased to recognize **Stacey Almos RN, and the entire staff from the North Valley Hospital** in Whitefish Montana.

195 out of 235 employees (83%) received influenza vaccination in 2005! This was about a 13% increase from 2004.

Guidelines from the CDC have indicated that administration of influenza vaccine to health care personnel before the beginning of each influenza season can help to reduce the risk of infection for health care personnel and prevent transmission to patients at high risk for complications.

The Montana Immunization Program offers kudos to the outstanding efforts from the folks at the North Valley Hospital, they are ***lighting the way*** for other hospitals in Montana! **Stacey Almos, RN states, "I would like to challenge all Montana Hospitals to immunize at least 90% of their employees with influenza vaccine for the 2006-2007 flu season!"**

Rabies Testing for HUMANS

Although antibody levels do not define a person's immune status, they are a marker of continuing immune response. To ensure the continuity of an immune response, titers should be checked periodically, with booster doses administered as needed. Those needing rabies titers and booster doses of vaccine include, ***rabies research laboratory workers, rabies diagnostic lab workers, spelunkers, veterinarians and staff, animal-control staff, and wildlife workers.*** For more information on rabies titer testing consult "Human Rabies Prevention-United States, 1999", ACIP, published in the MMWR.

RFFIT testing for rabies titer is available through the Kansas State University Rabies Lab. To access information about testing click on the following website, vet.ksu.edu/depts/rabies. To access a form to submit with the serum specimen, use http://www.vet.ksu.edu/depts/rabies/pdf/RFFIThu.PDF.

The serum test costs $25.00. Collect serum in a red top tube or a gel separator tube. 2ml of serum are needed. The address for Kansas State Lab is: **Rabies Laboratory/RFFIT, Mosier Hall, Kansas State University, 1800 Denison Ave, Manhattan KS 66506**. Phone: 785-532-4483

CHECK YOUR STANDING ORDERS!!
"Ask the Experts"

Question: Please Clarify emergency medical protocol for the management of anaphylactic reactions. Which route should be used for Epinephrine – IM or SQ.

- The language included in the CDC "Immunization Encounter: Critical Issues Broadcast – Emergency Preparedness Segment", June 27, 2002 & February 9, 2004 is: "Administer subcutaneously in the limb opposite the immunization site."

- The package insert for the EpiPen directs: "Swing and jab firmly into outer thigh until it clicks so that the units is perpendicular (at a 90 degree angle) to the thigh."

- The "Red Book", 2003, pg 63 states: "Because higher and more rapid concentrations of epinephrine are achieved after IM administration, subcutaneous administration no longer is recommended".

- The Immunization Action Coalition outlines "IM" as the route for "Emergency Medical Protocol for Management of Anaphylactic Reactions in Adults"
  - c. Administer (1:1000) aqueous epinephrine IM, 0.01 mL/kg/dose, 0.3 to 0.5 mL (maximum single dose is 0.5 mL)
  - d. In addition, for systemic anaphylaxis, administer diphenhydramine 50–100 mg orally or 50–100 mg IM (1–2 mg/kg, 100 mg maximum single dose).

Answer: "IM". I would recommend you follow the manufacturer's recommended route of administration, which is supported by the Red Book and IAC documents produced after 2002.

Donna L. Weaver, RN, MN, Nurse Educator
National Center for Immunization & Respiratory Diseases

Stop in and exercise your brain! "The Challenge" is presented for a little fun and we encourage you to discuss "The Challenge" with your peers and e-mail an answer to: thoran@mt.gov or fax your answer to the Immunization Program at 444-2920 to Tim Horan or, mail to: The Challenge, Immunization Program, Cogswell Building, P.O. Box 202951, Helena, MT 59620-2951

Winners will be acknowledged with Kudos in the next newsletter, and your names will be entered into a drawing for a T-shirt.

Talk about this week's Newsletter - Challenge and Stretch Your Mind!

The Challenge - Last News Letter – Spring, Vol. 12, No. 2

Question: The year was 1962. New York City was in the grip of a measles epidemic. City officials were getting nervous. It seemed like New Yorkers weren't taking it seriously. But, people needed to know who needed to be vaccinated and why, and, moreover, they needed to know where the vaccine was available and who was eligible. There was a lot of information that needed to be disseminated. The public health service people were getting discouraged as the epidemic spread. Something had to be done. A meeting was called. Various strategies were presented. Finally, out of the inky shadows, emerged Edmund J. Potas, Senior Public Health Advisor. "I have an idea," he said. He suggested a form of long-distance mass tele-communication that had never been used before. It was a success. And this method has been used countless times ever since. What did he suggest that day?
Answer: The hints were "measles," which has seven spaces--like a phone number, and "long-distance tele-communication".

Thanks to Molly Peterson and Jill Steeley of Madison County Health who diligently cracked the code and correctly suggested, are you ready for this? **1-800-MEASLES.**

New Challenge

New Question: You and your extended family are up at the lake house for vacation. One evening, you're all sitting by the lake, enjoying a little peaceful bonding time. Remarkably, everyone is getting along and chattering away when your niece announces that while awakening from a deep sleep, last night, she became aware that her cat, Mongo, was tearing around the room as he is sometimes want to do when chasing some flying insect. “Mongo leapt up beside me on the bed, pawing at the air then, I saw a bat fly over my head. I jumped up, opened the bedroom and outside door, and it flew away into the night. It must have come in, yesterday evening, when all the doors were open to air the cabin out. I never touched the bat, and it acted healthy. That was exciting!” As you wrap your mind around the implications of this revelation, life suddenly complicates itself. Now it’s time for you to discuss a huge problem: what do you tell your niece and the rest of your family?

Varicella Vaccine Coverage

Recommendations for universal administration of varicella vaccination were published by the American Academy of Pediatrics in May 1995. In 2005, the Montana Immunization Program assessed 2,793 provider-based children (24-35 months of age) to reveal an 82% coverage level in this population. Unfortunately, even if all of Montana’s 2005 birth-cohort, representing 10,964 children, were benefiting by health-providers care 8,990 children would remain without varicella vaccine.

Self-fulfilling Prophecy

Currently fewer than 2% of adults older than 30 years, in the United States, are susceptible to varicella. Models predict that if varicella vaccine coverage in children is more than 90% a greater proportion of cases will occur at older ages but the varicella disease burden will *decrease for children and adults*. However, if immunization rates for young children with varicella vaccine remain relatively low (think 82%) the number of children who become susceptible adults will increase as will opportunities for these susceptible adults to contract varicella from unimmunized children. *Therefore, health-care providers who withhold varicella immunization from young children because of fear of creating a cohort of adults at risk for serious varicella disease are creating a self-fulfilling prophecy.* Please review the following table from AAP policy.

Varicella-Zoster Virus Disease Burden in Adults Related to Varicella Vaccine Coverage Among Children*

	Coverage in Children (%)	Number of Susceptible Adults	Amount of Wild-Type Virus	Disease Burden in Adults
No vaccine	0	+	++++	++
Selective vaccine use	<90	++++	+++	++++
Universal vaccine use	>90	++	+	+

* The plus signs indicate the relative number or disease burden.

New Assessment Series

For reasons cited above, this is the last year the Immunization Program will be assessing 4DTaP:3Polio:3Hib:1MMR:3HepB. This series will now incorporate 1-varicella to become – 4:3:3:1:3:1Varicella.

Scrambled Health

Unscramble these four jumbles, one Letter to each square, to form four Vaccine-preventable diseases.

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WHICH GOON GO UP

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APE HITS IT

ANSWERS ON INSERT – Next Page Down

TWO NEW VACCINES LICENSED

The first vaccine to reduce the risk of shingles (herpes zoster) in adults 60 years and older was approved by the Food and Drug Administration (FDA) on May 25, 2006. The vaccine, called Zostavax, manufactured by Merck & Co., contains weakened varicella virus (like the chickenpox vaccine, but in a boosted dose) that primes the body's immune response against the virus, reducing the chance of an outbreak as well as limiting the severity of symptoms if the disease does occur.

The FDA announced on June 8 their approval of Gardasil, the first vaccine developed to prevent cervical cancer, precancerous genital lesions and genital warts due to human papillomavirus (HPV) types 6, 11, 16 and 18. The vaccine is approved for use in females 9-26 years of age. This vaccine is not yet a VFC vaccine pending recommendation by the ACIP.

Answer to vaccine storage, handling from Spring Newsletter: Vol. 12, No. 2

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SCRAMBLE ANSWERS

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WHOOPING COUGH = WHICH GOON GO UP

INFLUENZA = ZEAL IF NUN

HEPATITIS = APE HITS IT

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If you know of Medicaid or VFC Fraud, report it to the confidential Medicaid Fraud Hotline. (800)376-1115

Upcoming Events

♦**Human Papillomavirus (HPV), Cervical Cancer, and HPV Vaccine and Recommendations**
Current Issues in Immunization Net Conference July 7, 2006 at 12pm Eastern Time. For more info http://www.cdc.gov/nip/ed/ciinc/hpv.htm.

♦**Montana Public Health Association Meeting, September 12-14, Billings Hotel and Convention Center. Contact Lora Wier lwier@3rivers.net**

♦**Every Child By Two : Immunization Partners Meeting, September 12, 3:15-4:30 PM at MPHA meeting. Join us to hear the latest Communicable Disease/Immunization News.** Contact Marci Eckerson.

Satellite courses

♦Immunization Update 2006, August 10, 7-9:30 AM and 10-12:30 PM. **For more information you may email the following: http://www.phppo.cdc.gov/PHTN//immup-2006/default.asp or contact Beth Cottingham 444-2969.**